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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,169	10/14/2004	Mitsuo Hamada	7398/84162	6443
42798	7590	05/12/2008		
FITCH, EVEN, TABIN & FLANNERY			EXAMINER	
P. O. BOX 18415			HUG, ERIC J	
WASHINGTON, DC 20036				
			ART UNIT	PAPER NUMBER
			1791	
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			05/12/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/511,169

Applicant(s)

HAMADA ET AL.

Examiner

Eric Hug

Art Unit

1791

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2004 and 27 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11 and 13-17 is/are rejected.
- 7) ☒ Claim(s) 10 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 4/13/05, 6/2/06, 8/28/06, 8/21/07.
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse in the reply filed on February 27, 2008 is acknowledged. In view of the arguments, the requirement for restriction is withdrawn. Claims 1-17 are under consideration.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-8 and 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al (WO 01/56103), or in the alternative, under 35 U.S.C. 103(a) as being unpatentable over Nakamura. [Nakamura was cited by Applicant in the Information Disclosure Statement of August 21, 2007.]

US 2002/0175073 is being relied upon as an English language equivalent of WO 01/56103. US 2002/0175073 also qualifies as prior art under 35 U.S.C. 102(c).

Nakamura discloses a carbon fiber paper and porous carbon electrode for a fuel cell. The carbon fiber paper is made by wet papermaking (paragraph [0024]) comprising fibers having the claimed average diameter and average fiber length (paragraph [0007]), and made from precursor fibers of polyacrylonitrile under conditions as disclosed in the instant specification (paragraph [0023]). The carbon paper is impregnated with a resin and then carbonized to form an electrode substrate. The substrate has the claimed thickness, bulk density, bending strength, and deflection as measured by a three-point bending test under the claimed test conditions (see Abstract; paragraphs [0008], [0033]). The substrate can also be rolled as claimed (paragraphs [0009], [0034]). The substrate also contains a carbonized resin in the claimed amount (paragraph [0027]). These aforementioned features read on those of claims 2-6, 8, 13, 15, and 16.

Regarding claim 1, Nakamura does not disclose that the carbon fibers used to make the carbon paper has a surface area ratio of 1.05 or more, and therefore, regarding claim 8, Nakamura does not disclose a porous carbon electrode substrate comprising a paper with fibers having the same surface area ratio. However, The fibers of the claimed invention are made in the same manner as that of Nakamura and are derived from the same precursor material, polyacrylonitrile. The electrode substrate of the claimed invention is also made in the same manner as that of Nakamura. Therefore, it is deemed that the claimed surface area ratio of 1.05 or more is inherent to the carbon fibers of Nakamura, therefore Nakamura anticipates the claims, or it would have been obvious to one skilled in the art to recognize that the carbon fibers of

Nakamura has the claimed surface area ratio, therefore Nakamura deems the claims unpatentable.

The claiming of an unknown property which is inherently present in the prior art does not necessarily make the claim patentable. There is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure at the time of invention, but only that the subject matter is in fact inherent in the prior art reference. A rejection under 35 U.S.C. 102/103 is appropriate for these types of claims. See MPEP 2112.

For the same reasons above, the properties given by claim 7 regarding the carbon fiber paper, and the properties given by claims 14 and 17 for the carbon electrode substrate are deemed to be inherent.

2. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura as applied to claim 8 above, and further in view of Iwaki et al (JP 08-283084). [Iwaki was cited by Applicant in the Information Disclosure Statement of June 2, 2006.]

Nakamura discloses a carbon fiber paper and porous carbon electrode substrate as described above. Nakamura does not disclose forming a structure comprising two carbon fiber papers each containing a resin and laminated together. However, a carbon electrode substrate having a laminated multi-layer structure is well known in the art, as exemplified by Iwata. Here, Iwata discloses a porous carbon electrode substrate comprising two paper sheets in a laminated structure as claimed in claim 9. It would have been obvious to one skilled in the art to construct an electrode substrate in the claimed manner based on the teachings of Iwata. Such a construction would also utilize a second paper having fibers within the claimed dimension.

Allowable Subject Matter

Claims 10 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 10 is allowable for further providing that the carbon fiber papers are the same kind and laminated with the same sides of the papers directed outward.

Claim 12 is allowable for further providing the outermost surface of the electrode substrate with the claimed paper and a surface roughness of 5 microns or less.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,713,034. Although the conflicting claims are not identical, they are not patentably distinct from each other because the only difference is the feature of the surface area ratio, which has been deemed to be an inherent property as discussed above.

Claims 8 and 13-17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 7,297,445. Although the conflicting claims are not identical, they are not patentably distinct from each other because the only difference is the feature of the surface area ratio, which has been deemed to be an inherent property as discussed above.

Information Disclosure Statement

Reference JP 5-44779, cited in the Information Disclosure Statement of August 21, 2007, has not been considered, because an English translation of the document or abstract has not been received, although the IDS indicates that a translation of the document had been provided. Applicant is respectfully requested to re-submit the translated document.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Each of the following references disclose various methods of making carbon fiber paper or nonwoven materials:

Giglia et al (US 4,565,727), Waters et al (US 4,647,360), Nishino et al (US 4,737,889), Miwa et al (US 4,851,304).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is (571) 272-1192.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eric Hug/
Primary Examiner, Art Unit 1791